



**THE USES AND LIMITS
OF LOCAL KNOWLEDGE:
A CAUTIONARY NOTE ON HAYEK**

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One of Hayek's great intellectual achievements stems from his appreciation of the quiet virtues of the price system. At a time when everyone was clamoring for central planning, Hayek, writing in his classic article, *The Use of Knowledge in Society*,¹ understood the unsurpassed ability of the price system to coordinate the activities of myriads of separate individuals. Each person, in Hayek's view, possesses local knowledge of his own situation, which gives him a clear sense of the costs of his factor inputs and the prices that he hopes to obtain by selling the outputs of their deployment. The strength of the individual's convictions can be communicated to the world by a single number—the price that is bid or asked for certain commodities. These prices are, of course, not randomly generated but depend on accurate estimates of both benefits and costs. Yet no market participant has any incentive to inflate or deflate the relevant figures, because the only person who will be deceived by this action is himself. The system, moreover, is easily expandable across different markets, even when their participants operate in different languages and under different cultural norms. The thicker the market, and the greater the apparent disorder, the fuller the range of options from which everyone may choose.

The very informational complexity that strengthens a price system simultaneously makes any administrative system of resource allocation balky and ineffective. In that latter setting, parties have the great temptation to tell the tribunal just what its members want to hear, knowing that an immediate falsification of any predictions or figures is difficult if not impossible to detect. The upshot is long, tendentious, and convoluted regulatory proceedings that as often as not assign

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¹ Friedrich A. Hayek, *The Use of Knowledge in Society*, 35 AM. ECON. REV. 519 (1945).

given rights to the parties who make the slickest presentations, not the ones who have the best uses for the goods and services in question.

In my view, Hayek's case for decentralized planning (which does not mean *no* planning) remains unrefuted to this very day. Overall systems of centralized planning have withered and died, and the dominance of administrative proceedings tends to be confined to certain specialized areas, such as broadcast licenses in the United States, where the entrenched licensees are able to resist any system conversion. But Hayek has combined his powerful defense of the price system with a second element that, in retrospect, seems to be incorrect. In dealing with the efficiency of prices, Hayek celebrates the local knowledge that ordinary individuals can exploit in finding their entrepreneurial niches and in deciding how much to offer or accept for some commodity. He stresses "how valuable an asset in all walks of life is knowledge of people, of local conditions, and special circumstances."² He provides the example of "the shipper who earns his living from using otherwise empty or half-filled journeys of tramp-steamers, or the estate agent whose whole knowledge is almost exclusively one of temporary opportunities, or the *arbitrageur* who gains from local differences of commodity prices."³ Hayek concludes, "It is a curious fact that this sort of knowledge should today be generally regarded with a kind of contempt, and that anyone who by such knowledge gains an advantage over somebody better equipped with theoretical or technical knowledge is thought to have acted almost disreputably."⁴

The implicit undercurrent of Hayek's thought is that the formalist always loses out to individuals who rely on the intuitive and local knowledge. But it is a mistake to assert, or even hint, that the devotion to the price system necessarily means that hunch, intuition, and the rule of thumb are the order of the day. The root of the difficulty comes from a generalized suspicion of planning. Enterprise often fails when governments seek to operate large economies, because these governments, no matter how constituted, lack the information to make sensible judgments. That knowledge gap at the center cannot be eliminated by the studied responses of individual firms. But it hardly follows that private parties should fail at systematic planning in their own activities simply because governments fail in their efforts to plan a large economy. There is no dominant solution here. Each firm has the right incentives to decide whether hunch or computer program is the best way to maximize profits in the long run. The question of which techniques will do better depends in large measure upon their relative costs. In an age when technical algorithms were difficult to design and apply, the individual who operated under hunch would be able to outperform the one who operated in accordance with some preconceived rule. But the balance of advantage can surely shift, and in all likelihood it has shifted with the vast improvement in technology. It is not that the local knowledge is disreputable. It is that it can become ineffective in at least some

² *Id.* at 522.

³ *Id.*

⁴ *Id.*

walks of life relative to more systematic, number-crunching attacks on certain problems.

Here are three brief examples of the basic point. Not long ago, the strongest chess players could routinely thrash the most powerful computers.⁵ The intuitive sense of position counted for more than the imperfect computing power of the earlier machines, which, even then, allowed the machine to review far more positions than the most skillful human. The knack of honing in on vulnerabilities and opportunities counts significantly in chess. But as the power increased by order of magnitudes, the balance of advantage necessarily shifted anew. Now the machines can see further ahead than the individuals, and they can be programmed to make "intuitive" evaluations of the last positions that they evaluated under some decision tree.⁶ How this is done is of no importance, so long as it is understood that the balance of advantage will shift in only one direction so that the machine will become the master of the man. Local knowledge does not stem the tide.

One may argue in response, however, that this is not a fair advantage in that there is no dynamic element involved in the game of chess, because all the elements are open for all to see. It is computational and not judgmental. We do not have to worry about how others will adapt their behavior in response to the changes in strategies of individual players. The difference is surely correct, but it does not negate the key point that increased computer power will help various traders to figure out the set of strategic responses of other parties.

The point is most telling in the trading of various forms of financial instruments where the seat-of-the-pants traders cannot spot or exploit various arbitrage opportunities with the speed of the best computers.⁷ The large spreads that could be locked in twenty years ago are a relic of the past as ever faster machines track and thus eliminate these advantages within an instant.⁸ The constant power of markets to return to equilibrium is, of course, a significant long-term advantage to persons on the outside of the system looking in, because they know that by hiring the right financial agent, they can gain the advantages of an efficient price system. But the intuitionalist that Hayek has praised has been forced to give way to the utilitarian calculator that Hayek regarded with deep suspicion.

In my view, similar movements are already taking place and will continue to take place even in other areas in which trades cannot be denominated with precision in dollars, pounds, or euros. One illustration is the way in which athletes are now evaluated. It is no longer simply a question of watching people play and forming some judgment about their abilities. It is striking how the general man-

⁵ For a discussion of the developments in the chess contest between humans and computers, see generally Jeffrey Goldsmith, *The Last Human Chessmaster*, WIRED, Feb. 1995, available at <http://www.wired.com/wired/archive/3.02/chess.html>.

⁶ See *id.* (describing the landmark defeat of world chess champion Gary Kasparov by Deep Blue, IBM's specially programmed computer).

⁷ See Ronald J. Gilson & Reinier H. Kraakman, *The Mechanisms of Market Efficiency*, 70 VA. L. REV. 549, 554 (1984). See generally Wendy L. Wall, *Stock-Index Traders Expected to Exit Markets This Week in Profit Strategy*, WALL ST. J., Dec. 17, 1984, at 1.

⁸ See Gilson & Kraakman, *supra* note 7; Wall, *supra* note 7.

ers of major league baseball teams—Billy Beane of the Oakland Athletics and Theo Epstein (no relationship, alas) of the Boston Red Sox—do precise mathematical calculations to compare the effectiveness of different athletes.⁹ Many of the old measures, such as slugging percentages, tend to give way to more complex measures on run production that permit a more accurate assessment of capabilities. These formal devices have not displaced simple observation, for the past is never perfect prologue to the future, but they have altered the way in which athletic teams sign and coach players.¹⁰ I have no doubt that this movement has spread, or will spread to England, where cricket seems an obvious parallel, and even to a more fluid game like English (as opposed to American) football.

The point here is a simple one. The case for decentralization depends upon the abilities of multiple actors to use different strategies to decide how to proceed in any organized market or competition. But the dominance of decentralization does not equal the dominance of local knowledge, although in many cases it is consistent with it. Advances in industrial organization depend on understanding the fit between formal information and particular forms of “know-how.” We should acknowledge that the shift from intuition to formal or technical knowledge moves apace even in markets. We must therefore adjust our appreciation of Hayek to understand that local knowledge has to compete every inch of the way with other forms of information. Indeed, this is just as it should be, because no one knows *a priori* which form of information is superior.

⁹ See generally MICHAEL LEWIS, MONEYBALL: THE ART OF WINNING AN UNFAIR GAME (2003) (describing Billy Beane); Robert Gavin, *Sox Owner's Success Driven By Numbers*, BOSTON GLOBE, Apr. 19, 2004, at A1 (describing Theo Epstein and his predecessors).

¹⁰ See Lewis, *supra* note 9; Gavin, *supra* note 9.